

## ABSTRACT

A substrate voltage generating circuit includes a first power supply node of a first potential level, a second power supply node of a second potential level lower than the first potential level, and an output node receiving a voltage having a third potential level lower than the second potential level. The circuit also includes a level shift circuit coupled between the first power supply node and the output node, receiving an input signal having the first and second potential levels, and outputting an output signal having the first potential level and the third potential level. The circuit also includes a switch circuit connecting the second power supply node to the output node in response to the output signal.